

AMENDMENTS TO THE SPECIFICATION AND ABSTRACT

In the specification, page 2, lines 10-11, please amend the paragraph as follows:

The inventors of the present invention devoted themselves to studies to solve such problems. As a result, it was found that a nonaqueous electrolyte secondary battery provided with a positive electrode plate including a lithium-manganese composite oxide with spinel structure and a negative electrode plate including graphite has remarkably improved life performance by charging so as to satisfy the following conditions (1) and (2):

Condition (1) $X_{max} \leq 0.75$; and

Condition (2) $X_{max} \leq -0.70R_{N/S} + 1.31$.

In the specification, page 3, lines 27-28, to page 4, lines 1-3, please amend the paragraph as follows:

When the total discharge capacity of the discharge capacities C1, C2, C3 and C4 thus obtained is set to T, X_{max} is calculated by the following equation. It is to be noted that Z denotes the graphite quantity (g) inside a negative electrode plate and 372 mAh/g denotes the theoretical capacity of graphite in the equation:

$$X_{max} = T(\text{mAh}) / (Z(\text{g}) \times 372 \text{ mAh/g}).$$

In the specification, page 5, lines 12-14, please amend the paragraph as follows:

Furthermore, the following Condition (3) is preferably satisfied in the present invention:

$$\text{Condition (3)} \quad X_{\max} \geq -0.45R_{N/S} + 0.99.$$

In the specification, page 8, lines 27-28 to page 9, lines 1-2, please amend the paragraph as follows:

DETAILED DESCRIPTION OF THE INVENTION

BEST MODE FOR CARRYING OUT THE INVENTION

Next, the effects of the present invention will be described specifically by way of examples, but the present invention is not limited to the examples.

<Making Nonaqueous Electrolyte Secondary Battery>

In the specification, page 10, lines 14-23, please amend the paragraph as follows:

The following cycle life test is conducted for the nonaqueous electrolyte secondary battery thus made, both of the following Condition (1) and Condition (2) are satisfied in the charging method of the examples, and at least either of Condition (1) or Condition (2) is not satisfied in the charging method of the comparative examples. It is to be noted that X_{\max} of the negative active material shown in the following Tables 1 and 2 means the maximum value of X when the graphite which stores lithium by charge is represented by Li_xC_6 , showing the value when constant current constant voltage charge finishes, that is, the maximum value in each charging method.

Condition (1) requires that ≤ 0.75 .

Condition (2) requires that $X_{max} \leq -0.70R_{N/S} + 1.31$.

In the specification, page 11, lines 1-12, please amend the paragraph as follows:

Specifically, the battery was charged: at a constant current of 400 mA and a constant voltage up to 4.10 V in an environment of 25 °C. for three hours in the charging method of Examples 1-7 and Comparative Examples 1 and 2; charged at a constant current of 400 mA and a constant voltage up to 4.20 V in an environment of 25 °C. for three hours in the charging method of Comparative Examples 3-11; charged at a constant current of 400 mA and a constant voltage up to 4.05 V in an environment of 25 °C. for three hours in the charging method of Examples 8-13 and Comparative Examples 12 and 13; charged at a constant current of 400 mA and a constant voltage up to 4.00 V in an environment of 25 °C. for three hours in the charging method of Examples 14-19 and Comparative Example 14; and charged at a constant current of 400 mA and a constant voltage up to 3.95 V in an environment of 25 °C. for three hours in the charging method of Examples 20-22, and the charge was finished.

In the specification, page 11, lines 1-3, please amend the paragraph as follows:

Setting the total discharge capacity of the discharge capacities C1, C2, C3 and C4 thus obtained as T, each Xmax was calculated by the following equation:

$$X_{max} = T(\text{mAh}) / (Z(\text{g}) \times 372 \text{ mAh/g}).$$

In the Abstract, please amend as follows:

A method of charging ~~method of~~ a nonaqueous electrolyte secondary battery which comprises a positive electrode plate including a lithium-manganese composite oxide with a spinel structure; a negative electrode plate including graphite capable of storing and discharging lithium; and a nonaqueous electrolyte. ~~When the, such that, when a~~ ratio of a theoretical capacity of the negative electrode plate to a theoretical capacity of the positive electrode plate is set as $R_{N/S}$ and when the graphite ~~which has stored~~ storing the lithium by charging is represented by Li_xC_6 , the nonaqueous electrolyte secondary battery is characteristically charged so that the maximum value X_{max} ~~X can have~~ satisfies the following Conditions (1) and (2); wherein Condition (1) requires that $X_{max} \leq 0.75$ and Condition (2) requires that $X_{max} \leq -0.70 R_{N/S} + 1.31$. The life performance is remarkably improved by charging the nonaqueous electrolyte secondary battery while satisfying Conditions (1) and (2).

Condition (1) $X_{max} \leq 0.70$

Condition (2) $X_{max} \leq 0.70R_{N/S} + 1.31$

~~The life performance is remarkably improved by charging the nonaqueous electrolyte secondary battery while satisfying the Conditions.~~